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April 9, 2001

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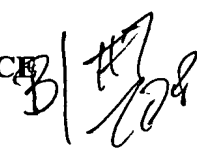
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PATENT

Attorney Docket No.: 17634-000513US

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE



In re application of:

Brian R. Murphy et al.

Application No.: 09/444,221

Filed: November 19, 1999

For: PRODUCTION OF ATTENUATED
RESPIRATORY SYNCYTIAL VIRUS
VACCINES FROM CLONED
NUCLEOTIDE SEQUENCES

Examiner: B. Brumback

Art Unit: 1642

**AMENDMENT AND RESPONSE TO
RESTRICTION REQUIREMENT AND
SPECIES ELECTION REQUIREMENT**

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

This communication is presented in response to the Restriction Requirement mailed February 9, 2001, which set forth the following groups of claims:

- I. Claims 1-17, 19, 21, 29, 39, 47-54, 59, 61, and 62, drawn to isolated RSV with attenuating temperature sensitive mutations, methods of use and methods of making, classified in class 411, subclass 211.1.
- II. Claims 1, 11, 22-25, 29, 30, 36, 37, 49, 51, 54, 55, 58, and 60, drawn to RSV/PIV chimeric viruses, classified in class 424, subclass 199.1.
- III. Claims 26-28, 35, and 39-46, drawn to isolated RSV modified to ablate or modulate expression of a SH, NS1, NS2, or G gene, classified in class 424, subclass 211.1.
- IV. Claims 26, 32, 39-46, 49, 51, and 58, drawn to human/non-human chimeric RSV, classified in class 424, subclass 211.1.

- V. Claims 1, 11, 18, and 38-46, drawn to isolated RSV modified by introduction of a termination codon or in a GS or GE transcription signal, classified in class 424, subclass 211.1.
- VI. Claims 1, 11, 20, 26, 29-31, 33, 34, 39, 49, 51, 56, 58 drawn to human RSV chimeric viruses of different subgroups, classified in class 424, subclass 211.1.

The Office Action also set forth the following proposed list of species and requirement for election therefrom in relation to the foregoing Groups:

- 1. Recombinant RSV with a point mutation specifying a temperature-sensitive amino acid substitution at Phe₅₂₁,
- 2. Recombinant RSV with a point mutation specifying a temperature-sensitive amino acid substitution at GLN₈₃₁,
- 3. Recombinant RSV with a point mutation specifying a temperature-sensitive amino acid substitution at Met₁₁₆₉,
- 4. Recombinant RSV with a point mutation specifying a temperature-sensitive amino acid substitution at Tyr₁₃₂₁,
- 5. Recombinant RSV with an attenuating mutation specifying a temperature-sensitive amino acid substitution in the gene-start sequence of gene M2,
- 6. Recombinant RSV with a deletion in a gene specifying a phenotype change in growth characteristics,
- 7. Recombinant RSV with a deletion in a gene specifying a phenotype change for small plaque size,
- 8. Recombinant RSV with a deletion in a gene specifying a phenotype change in attenuation,
- 9. Recombinant RSV with a deletion in a gene specifying a phenotype change in temperature sensitivity,

10. Recombinant RSV with a deletion in a gene specifying a phenotype change in cold-adaptation,
11. Recombinant RSV with a deletion in a gene specifying a phenotype change in host range restriction,
12. Recombinant RSV with a deletion in a gene specifying a phenotype change in immunogenicity,
13. Recombinant RSV with a modification in an SH gene,
14. Recombinant RSV with a modification in an NS1 gene,
15. Recombinant RSV with a modification in an NS2 gene,
16. Recombinant RSV with a modification in a G gene,
17. Recombinant RSV with a modification to a cis-acting regulatory sequence,
18. Recombinant RSV with a modification to encode a cytokine,
19. Recombinant RSV with a modification to encode a T-helper epitope,
20. Recombinant RSV with a modification to encode a restriction site marker,
21. Recombinant RSV with a modification to encode a protein of a microbial pathogen,
22. RSV strain *cpts* RSV 248,
23. RSV strain *cpts* RSV 248/404,
24. RSV strain *cpts* RSV 248/955,
25. RSV strain *cpts* RSV 530,
26. RSV strain *cpts* RSV 530/1009,
27. RSV strain *cpts* RSV 530/1030,
28. RSV strain RSV B-1 *cp52/2B5*, and